DARBY CREEK TANK FARM

RI Rpt – 8/16/2002

Objective – area specific release of liability for soils within 3 areas subject to historical placement of materials/fill.

Soil Investigation

48 Soil Borings - Samples

- collected at 2 intervals (0-2 ft) & (2 ft to GW/refusal)
- VOCs, SVOCS, and inorganics
- Saturated & unsaturated soil was sampled for Total Organic Carbon & Cation Exchange Capacity.
- SPLP analyses were performed on soil samples exceeding Nonresidential Used Aquifer Soil to GW MSGs.

33 Test Pits – used to visually distinguish variation of materials & delineate the extent of waste materials.

Catalyst Disposal Area

– 1.4 acres, occurs within the area of surface water control
-Construction debris found through out the area.
-An area of darkened materials associated with catalyst disposal 40 ft by 200 ft, extending to a depth of 5.5 ft bgs, max thickness of 3 ft
-10 Soil Borings & 11 Test Pits - 20 total samples
- Benzo(a)pyrene and arsenic above Surface Soil Direct contact MSC in 1 boring
-Lead detected above the Nonresidential Used Aquifer Soil to GW MSC in another boring
-submitted for SPLP analysis – Met the Nonresidential Used Aquifer Soil to GW MSC

Neutralized Acid Trash Area

-encompasses 6 acres
- occurs within a diked portion of the Site providing surface water run-on & off controls.
-13 Soil Borings & 13 test pits -26 total samples
-Arsenic was above the Nonresidential Used Aquifer Direct Contact & Soil to GW MSCs in 1 boring.
-submitted for SPLP analysis - ND

Oily Sludge Disposal Area

-encompasses ~7 acres
-occurs within a diked porton of the Site
-20 Soil Borings & 9 test pits – Total of 40 Samples
-defined a specific zone of black silty petroleum-impacted material on the order of 200 ft X 675 ft extending to a depth of 8 ft.
-Benzene exceeded the Soil to GW MSC in 3 samples
-SPLP Analysis was performed -1 of 2 samples exceeded the nonresidential used aquifer
-Methylene Chloride exceeded the Soil to GW MSC in 1 sample
-submitted for SPLP analysis – exceeded the nonresidential used aquifer std
-Benzo(a)pyrene was above the Nonresidential Used Aquifer Direct Contact & Soil to GW MSCs in 1 boring & above the Direct Contact concentration in another boring.
-submitted for SPLP analysis – ND
-Arsenic was above the above Surface Soil Direct Contact MSC in one sample
-Iron was above the above Surface Soil Direct Contact MSC in one sample
-Lead -5 of 23 samples exceeded Surface Soil Direct contact MSC (53 mg/kg)
-16 Samples exceeded the Soil to GW MSC (450 mg/kg)
-12 of 15 samples submitted for SPLP analysis exceeded the Used Aquifer MSC (5 µg/l))
-Antimony, 8 samples exceeded the Soil to GW MSC (450 mg/kg)
-7 of 8 samples submitted for SPLP analysis exceeded the Used Aquifer MSC (6 µg/l)

GW Investigation

– 25 MWs installed at various times in the investigaiton.
-LNAPL -1 well with a thickness 0.07 ft)
-Sheen observed in 1 well
-PCE, TCE & cis-1,2-DCE exceeded GW MSCs in 1 well located in the Neutralized Acid Trash Area.
-GW fate and transport modiling performed. No MSC was predicted to be exceeded at the property boundary for 1,10, & 30 year boundaries.
-Dissolved inorganic parmeters above GW MSCs included aluminum, antimony, arsenic, iron, manganese, nickel, thallium, and vanadium.
-Diffuse gw discharge to surface water general mass balance calculations were performed. Calculated concentrations were well below surface water quality criteria or standards.

DEP Comment Letter 11/13/2002

Approved the Report - provided the following comments which among others should be addressed in the Cleanup Plan & Final Report :
-incorrect standards utilized for Chromium
-additional fate & transport modeling may be needed based on results of future GW sampling
-additional soil sampling may be needed to define the boundaries of the impacted areas.
-detection limits for many soil samples analyzed for SVOCs exceeded DEP Standards.

The Cleanup Plan & Final Report were not in the Special Projects file or the Tanks File (23-11555) for this Site.